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(FILE 'HOME' ENTERED AT 12:36:59 ON 22 OCT 2002)

FILE 'MEDLINE, CANCERLIT, CAPLUS, BIOTECHDS, EMBASE' ENTERED AT 12:37:19
ON 22 OCT 2002

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L1       1350013 S ADENOVIR? OR RETROVIR? OR VIRAL OR VIRUS
L2          3884 S CATIONIC LIPID OR CATIONIC LIPOSOME
L3          1043 S L2 AND L1
L4        210301 S DIAMETER
L5            18 S L4 AND L3
L6            11 DUP REM L5 (7 DUPLICATES REMOVED)
L7        699744 S BOUND OR ENCAPSULATED
L8            66 S L7 AND L3
L9            29 DUP REM L8 (37 DUPLICATES REMOVED)
L10         4028 S CONDENS? AND L1
L11           57 S L10 AND L2
L12           28 DUP REM L11 (29 DUPLICATES REMOVED)
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L6 ANSWER 7 OF 11 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
AN 1997-13269 BIOTECHDS
TI Novel supramolecular assemblies for gene transfer; lipid-entrapped polycation-condensed DNA composition for use in lipofection and gene therapy (conference abstract)
AU Huang L
CS Univ.Pittsburgh
LO University of Pittsburgh, Department of Pharmacology, W1351 Biomedical Science Tower, Pittsburgh, PA 15261, USA.
SO Abstr.Pap.Am.Chem.Soc.; (1997) 213 Meet., Pt.2, PMSE306
CODEN: ACSRAL ISSN: 0065-7727
American Chemical Society, 213th ACS National Meeting, San Francisco, CA, 13-17 April, 1997.
DT Journal
LA English
AB The relatively non-toxic and efficient **cationic liposome** formulation DC-Chol-DOPE has been used in 2 separate clinical trials for immunotherapy of cancer and gene therapy of cystic fibrosis. Two types of novel condensed structure containing DNA polycation and lipids have been developed. These lipid-entrapped polycation-condensed DNA (LPD) particles are small (under 100 nm in **diameter**), monodispersed and colloidally stable. Transfection activity of LPD is similar to that of adeno **virus** vectors, and is 10- to 100-fold higher than that of first-generation cationic liposomes. LPD-I particles are cationic and used primarily in local and regional delivery routes. LPD-II particles are anionic and may be made target-specific by attaching specific ligands on the surface. Parenteral use of these novel particles for systemic gene transfer is under development. Recently, reconstituted chylomicron remnants have been used to solubilize DNA-**cationic lipid** complexes. This new non-**virus** vector induces high-level transgene expression in the liver. These formulations were discussed in terms of their efficiency, toxicity and uses in gene therapy. (0 ref)

L9 ANSWER 28 OF 29 CAPLUS COPYRIGHT 2002 ACS
AN 1994:571553 CAPLUS
DN 121:171553
TI Transfection of plant protoplasts with tobacco mosaic **virus** RNA by using electroporation, PEG and **cationic liposome** -mediated methods
AU Yuan, Tianhua; Wu, Jianhua; Gong, Zuxun; Yang, Jingping; Lin, Qishui
CS Shanghai Inst. Biochem., Acad. Sin., Shanghai, 200031, Peop. Rep. China
SO Shengwu Huaxue Yu Shengwu Wuli Xuebao (1994), 26(1), 7-13
CODEN: SHWPAU; ISSN: 0582-9879
DT Journal
LA Chinese
AB Tobacco mosaic **virus** RNA was introduced into protoplasts from tobacco (Nicotiana tabacum L. cv. Bright Yellow) and Chinese cabbage (Brassica chinensis) by electroporation, PEG treatments and **cationic liposome**-mediated methods. The results indicated that although both of electroporation and PEG treatment methods could introduce TMV-RNA into protoplasts, **cationic liposome**-mediated methods could enhance infection significantly. The min. amt. of TMV-RNA necessary for transfection of protoplasts decreased down to 10 times, when the TMV-RNA mols. were **encapsulated** before introduction into protoplasts by electroporation or PEG treatment. The results also showed that TMV could multiply inside protoplasts and reach the max. after 48 h of introduction of TMV-RNA. SDS-PAGE of the roughly extd. solns. of transfected protoplasts at 48 h after introduction of TMV-RNA showed that a 17.5 kd band, the mol. wt. of which is equal to TMV coat protein clearly appeared and besides, there also a 50-55 kd protein band could be obsd. from these transfected protoplasts.

L9 ANSWER 26 OF 29 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
AN 1995-12639 BIOTECHDS
TI Adeno **viral** mediated cell transfection; receptor-mediated gene transfer to e.g. human cell in vivo using wild-type or inactivated **virus** or empty capsid, optionally with lipofection, e.g. for gene therapy
AU Seth P; Crystal R G; Rosenfeld M; Yoshimura K; Jessee J A
PA U.S.Dep.Health-Hum.Serv.; Life-Technol.
PI WO 9521259 10 Aug 1995
AI WO 1995-US924 24 Jan 1995
PRAI US 1994-191669 4 Feb 1994
DT Patent
LA English
OS WPI: 1995-283779 [37]
AB A new method for introducing a nucleic acid (NA) (DNA, RNA or peptide nucleic acid) into a eukaryotic cell (mammal, bird or fish, especially ungulate, cat, dog or human) in vivo or in vitro involves contact of the cell with the NA and an adeno **virus** (Ad), where the NA is not **bound** to a molecule. The cell is contacted with the Ad less than 8 hr (especially less than 2 hr) before or after contact with NA. The adeno **virus** (wild-type or modified to become replication-deficient) is present at 20-2,000 pfu/cell. The modification is an insertion, rearrangement, deletion, replacement, methylation, demethylation or mutagenesis, and alters cell binding, endosomal lysis or intracellular targeting. The Ad may be in empty capsid form, or inactivated. A cationic agent, e.g. a polycarbene, 1,5-dimethyl-1,5-diazaundecamethylene polymethobromide or a **cationic liposome** may be mixed with the NA and used to effect entry into the cell. The Ad transfers cargo molecules into the cell nucleus by receptor-mediated endocytosis. Unlike previous methods, this method may be used in vivo, and overcomes fusion difficulties, nucleic acid degradation and toxicity problems. (66pp)

L9 ANSWER 25 OF 29 MEDLINE DUPLICATE 15
AN 97261594 MEDLINE
DN 97261594 PubMed ID: 9107521
TI Lipidic vector systems for gene transfer.
AU Lee R J; Huang L
CS Endocyte, Inc., West Lafayette, IN 47906, USA.. leer@endocyte.wintek.com
SO CRITICAL REVIEWS IN THERAPEUTIC DRUG CARRIER SYSTEMS, (1997) 14 (2) 173-206. Ref: 67
Journal code: 8511159. ISSN: 0743-4863.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199707
ED Entered STN: 19970716
Last Updated on STN: 19970716
Entered Medline: 19970702
AB Clinical application of gene therapy depends on the development of suitable gene transfer vehicles (vectors). Although generally not as efficient as **viral** vectors, nonviral systems such as lipidic vectors have the potential advantages of being less toxic, nonrestrictive in cargo DNA size, potentially targetable, and easy to produce in relatively large amounts. More important, lipidic vectors generally lack immunogenicity, allowing repeated in vivo transfection using the same vector. In this paper, we will attempt to summarize some of the recent advances in lipidic gene delivery vectors. Three types of lipidic gene transfer vectors are described: 1) DNA/**cationic liposome** complexes, 2) DNA **encapsulated** in neutral or anionic liposomes, and 3) liposome-entrapped, polycation-condensed DNA (LPDI and LPDII). We review the various factors affecting vector structure and gene delivery efficiency, and we discuss the possible mechanisms of gene transfer and their implications in vector design.

L9 ANSWER 15 OF 29 MEDLINE DUPLICATE 7
AN 1999291932 MEDLINE
DN 99291932 PubMed ID: 10365810
TI Gene transfer to the rat biliary tract with the HVJ-**cationic liposome** method.
AU Uehara T; Honda K; Hatano E; Terao R; Iimuro Y; Yamamoto N; Yamamoto M; Kaneda Y; Yamaoka Y
CS Department of Gastroenterological Surgery, Kyoto University, Graduate School of Medicine, Japan.. tetsuzo@kuhp.kyoto-u.ac.jp
SO JOURNAL OF HEPATOLOGY, (1999 May) 30 (5) 836-42.
Journal code: 8503886. ISSN: 0168-8278.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199907
ED Entered STN: 19990806
Last Updated on STN: 19990806
Entered Medline: 19990723
AB BACKGROUND/AIMS: The ability to transfer foreign genes into the biliary tract would be useful for the treatment of biliary tract diseases, including cancer, cystic fibrosis and other genetic diseases. To introduce a foreign gene precisely into the rat biliary epithelial cells, we developed a new technique, inserting a polyethylene catheter into the common bile duct through the papilla of Vater by use of a fusigenic **cationic liposome** with hemagglutinating **virus** of Japan (HVJ-**cationic liposome**). METHODS: Transfection efficiency was estimated with the use of FITC-oligonucleotides (FITC-ODNs) and cDNA of beta-galactosidase (pCAG-lacZ). RESULTS: FITC-ODNs **encapsulated** in HVJ-**cationic liposome** were effectively transfected into cell nuclei of human cholangiocellular carcinoma in vitro after a 30-min incubation as compared with the simple application of naked FITC-ODNs. After in vivo injection of FITC-ODNs using the HVJ-**cationic liposome** method through the papilla of Vater, fluorescence accumulation was observed only in the epithelial cells of the biliary tract, but not in the parenchymal cells of the liver. Beta-galactosidase expression was observed in the biliary epithelial cells 3 days after the transfection of pCAG-lacZ and was also detected at 14 days, but not at 28 days, without obvious cytotoxicity. CONCLUSIONS: HVJ-**cationic liposome** -mediated gene transfer to the biliary tract via the papilla of Vater is a minimally-invasive and an effective gene-delivery method for site-specific targeting to the epithelial cells of the biliary tract, which could be applied to the treatment of human biliary tract diseases.

L9 ANSWER 8 OF 29 CAPLUS COPYRIGHT 2002 ACS
AN 2000:145054 CAPLUS
DN 132:176589
TI Cationic complexes of polymer-modified **adenovirus** vectors
IN Wadsworth, Samuel C.; O'Riordan, Catherine E.
PA Genzyme Corporation, USA
SO PCT Int. Appl., 73 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000011202	A1	20000302	WO 1999-US19162	19990823
	W: AU, CA, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9956857	A1	20000314	AU 1999-56857	19990823
	EP 1108048	A1	20010620	EP 1999-943838	19990823
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002523054	T2	20020730	JP 2000-566454	19990823
PRAI	US 1998-97653P	P	19980824		
	WO 1999-US19162	W	19990823		

AB An **adenovirus** complex including a complex of a cationic mol. and of an **adenovirus** having at least one polyalkylene glycol polymer **bound** thereto. The polyalkylene glycol polymer includes, but is not limited to, polyethylene glycol, methoxypolyethylene glycol, polymethylethylene glycol, polyhydroxypropylene glycol, polypropylene glycol, and polymethylpropylene glycol. Mol. wts. for the polymer range from 200 to 20,000 Daltons, with 2000 to 12,000 Daltons being preferred. The **adenovirus** is a preferably recombinant **adenoviral** vector such as a recombinant **viral** vector contg. a transgene. The polymer is **bound**, directly or indirectly, to the **virus** particle by covalent or noncovalent means. The cationic mol. is preferably a cationic polymer, such as DEAE-Dextran, or a **cationic lipid**. A compn. contg. the **adenovirus** complex and a carrier is also disclosed. The complexes of the invention exhibit reduced immunogenicity.

L9 ANSWER 1 OF 29 MEDLINE DUPLICATE 1
AN 2002253956 MEDLINE
DN 21969385 PubMed ID: 11973632
TI Characterisation of LMD **virus**-like nanoparticles self-assembled from cationic liposomes, **adenovirus** core peptide mu and plasmid DNA.
AU Tagawa T; Manvell M; Brown N; Keller M; Perouzel E; Murray K D; Harbottle R P; Tecle M; Booy F; Brahimi-Horn M C; Coutelle C; Lemoine N R; Alton E W F W; Miller A D
CS Imperial College Genetic Therapies Centre, Department of Chemistry, Imperial College of Science, Technology and Medicine, London, UK.
SO GENE THERAPY, (2002 May) 9 (9) 564-76.
Journal code: 9421525. ISSN: 0969-7128.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200205
ED Entered STN: 20020508
Last Updated on STN: 20020514
Entered Medline: 20020513
AB Liposome:mu:DNA (LMD) is a ternary nucleic acid delivery system built around the mu peptide associated with the condensed core complex of the **adenovirus**. LMD is prepared by precondensing plasmid DNA (D) with mu peptide (M) in a 1:0.6 (w/w) ratio and then combining these mu:DNA (MD) complexes with extruded cationic liposomes (L) resulting in a final lipid:mu:DNA ratio of 12:0.6:1 (w/w/w). Correct buffer conditions, reagent concentrations and rates of mixing are all crucial to success. However, once optimal conditions are established, homogeneous LMD particles (120 +/- 30 nm) will result that each appear to comprise an MD particle **encapsulated** within a cationic bilammellar liposome. LMD particles can be formulated reproducibly, they are amenable to long-term storage (>1 month) at -80 degrees C and are stable to aggregation at a plasmid DNA concentration up to 5 mg/ml (15 mM nucleotide concentration). Furthermore, LMD transfections are significantly more time and dose efficient in vitro than **cationic liposome**-plasmid DNA (LD) transfections.
Transfection times as short as 10 min and plasmid DNA doses as low as 0.001 microg/well result in significant gene expression. LMD transfections will also take place in the presence of biological fluids (eg up to 100% serum) giving 15-25% the level of gene expression observed in the absence of serum. Results from confocal microscopy experiments using fluorescent-labelled LMD particles suggest that endocytosis is not a significant barrier to LMD transfection, although the nuclear membrane still is. We also confirm that topical lung transfection in vivo by LMD is at least equal in absolute terms with transfection mediated by GL-67:DOPE:DMPE-PEG(5000) (1:2:0.05 m/m/m), an accepted 'gold-standard' non-**viral** vector system for topical lung transfection, and is in fact at least six-fold more dose efficient. All these features make LMD an important new non-**viral** vector platform system from which to derive tailor-made non-**viral** delivery systems by a process of systematic modular upgrading.

L12 ANSWER 7 OF 28 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
AN 2001-14354 BIOTECHDS
TI Nucleic acid delivery complex for delivering nucleic acids to cells such as neuronal, cancer, epithelial cells, comprises **cationic lipid**/protein/nucleic acid complex comprising **viral** packaging proteins;
nucleic acid vaccine delivery and gene therapy
AU Tagawa T; Miller A D; Perouzel E; Murray K; Manvell M; Alton E; Matthews D; Russell W
PA Mitsubishi-Tokyo-Pharmaceuticals
LO Tokyo, Japan.
PI WO 2001048233 5 Jul 2001
AI WO 2000-GB4767 12 Dec 2000
PRAI GB 1999-30533 23 Dec 1999
DT Patent
LA English
OS WPI: 2001-441719 [47]
AB A non-**viral** nucleic acid delivery vector (I) comprising a **condensed** polypeptide/nucleic acid complex and a **cationic lipid**, is claimed, where the complex comprises a nucleic acid sequence of interest and one or more **virus** nucleic acid packaging proteins, or their derivatives capable of binding to and **condensing** the nucleic acid of interest, which is heterologous to the protein. Also claimed are: a **condensed** protein/nucleic acid complex (II); producing (I) by contacting the nucleic acid of interest with a **virus** nucleic acid packaging protein or its derivative and contacting the nucleic acid/protein complex formed with a **cationic lipid**; and use of a **virus** nucleic acid packaging protein or its derivative in the manufacture of (I). (I) and (II) are used to introduce a nucleic acid of interest into a eukaryotic cell, especially a neuronal, cancer or epithelium cell. (I) and (II) can be used in gene therapy, nucleic acid vaccine delivery and in vitro transfection studies. (71pp)